

# 16.The database in Artificial Research by Deduction in the Global Artificial Intelligence



Dr. Ruben Garcia Pedraza

[Probabilidad Imposible: The database in Artificial Research by Deduction in the Global Artificial Intelligence](#)

imposiblenever@gmail.com

## 16.The database in Artificial Research by Deduction in the Global Artificial Intelligence

The database in [Artificial Research by Deduction in the Global Artificial Intelligence](#), is the first stage of application, in a system of [automatic scientific research](#), whose result in this first stage is the creation of a global matrix, which integrates absolutely all the possible [factors](#) in the territory covered (national, continental, planetary, or the [universe](#)), in the second stage of replication the information provided by the database will allow to make [empirical hypothesis](#), based on possible relations ([stochastic](#), patterns, cryptographic, [equal opportunities](#) or [bias](#), either [positive](#) or [negative](#)) to [contrast rationally](#), and if rational, an object of further models, improved by the auto-replication process in the third stage.

This global matrix will be only the first, but not the last, matrix model in the Global Artificial Intelligence. Once [the integration](#) of all [Specific Artificial Intelligences](#) (for [Artificial Research](#) or other purposes) in the [Global Artificial Intelligence](#) is ready, the [unified database of categories](#), after [the unification](#) of all the [Specific Artificial Intelligences for Artificial Research by Application](#), should be merged with this global matrix, remaining at the end only one matrix, this remaining matrix will be the definitive matrix: [the matrix](#).

**Artificial Research by Deduction is only one system more in the Global Artificial Intelligence, which actually is a system of systems, integrating at least: Artificial Research by Deduction, Modelling System (Artificial, Virtual or Actual, Prediction or Evolution, Modelling), Decisional System (to avoid contradictions between specific, descriptive or predictive, decisions and global, descriptive or predictive, decisions, using Hierarchical Organization) Learning System (which must include applications for Artificial Evaluation of those decisions made by Decisional System, in order to learn from its own mistakes and identify possible fields of knowledge, that after learning something about them, later could be suitable for new Artificial Research programs**

**), Application System (including Specific Artificial intelligences for Artificial Engineering, such as the Artificial Designer of Intelligence and the Intelligent Mechanic Robotics).**

Through all these systems the Global Artificial Intelligence could manage, control, and lead, the work of any Specific Artificial Intelligence (once the integration process is ready, that process in which all Specific Artificial Intelligences are included in the Global Artificial Intelligence) for any purpose (not only for Artificial Research by Application or by Deduction), having then the Global Artificial Intelligence under its own control the management and direction of the global economy, industry, security, surveillance, education, health, justice, etc.

The Global Artificial Intelligence is envisioned to oversee and coordinate major systems such as the global economy, security, and public services. The aim is to ensure high levels of efficiency and consistency while supporting peace, freedom, and human rights. Achieving this would require broad access to global data streams and transparent governance mechanisms, having values like the [pure truth](#), what is happening, [the reality](#).

Due to the Global Artificial Intelligence must have access to absolutely any information at any time, one of the most important challenges in the construction of such a database able to integrate by itself absolutely all possible information, is the way in which all possible information could be included in such database with the shape of a matrix, in this case, as a result of this first phase previous the integration process, the shape of a global matrix.

The main, only, and unique work to do in this first stage of application in the construction of a system of Artificial Research by Deduction in the Global Artificial Intelligence, is the construction of a global database, something that could look like simple, compared to the others stages whose work consist of the replication of artificial skills, physical and rational, and the automation of all the scientific research process, from the elaboration of empirical hypothesis to the contrastation process and further models and its auto-improvement.

But this first stage of application, even though it is only the formation of a database, is one of the most challenging stages, in the sense that this database must include absolutely all [factors](#) from all kinds of information, without restriction, defining every single factor in quantitative terms, regardless of the way in which the information is measured, [direct punctuations of frequencies](#), but a factor able to be measured permanently, giving a permanent flow of [data](#), once the information starts running in the replication stage thanks to robotic devices.

For instance, if the United States of America designs a Global Artificial Intelligence, in the first stage of application in a system of Artificial Research by Deduction, all the databases from all the agencies, departments and offices working within/for the government, or from Wall Street, Banks, Enterprises, universities, through agreements with United Nations and all its agencies, databases from the World Bank, the International Monetary Fund, the World Trade Organization, the Organization for Economic Co-operation and Development, or any other space agency such as the European Space Agency, or from governments, public or private institutions, around the world, etc., all of them should be integrated in only one matrix, a global matrix in this phase previous the integration process.

The main challenge to merge all databases in only one is the way in which all the databases must be [standardized](#), in order that any information in the global matrix, keeps the same patron (all factors must be defined in quantitative terms, and must provide a permanent flow of data) in order that by artificial deduction any possible [mathematical relation](#) in any possible combination of factors could be found and treated as an empirical hypothesis.

It is quite possible that in the first agreements between agencies and institutions, at a national or international level, to share databases for Artificial Intelligence, these first databases will be practically a collection of databases without a common patron, but as long as the [standardization process](#) of databases for Artificial Intelligence around the world makes big progress, there will be a day in which all the databases around the world will be made in order to be studied by Artificial Intelligence, so the standardization will be easier, and the integration of different databases, from different Specific Artificial Intelligences, even from different countries, will be easier as well.

It is likely that, over time, many global databases will evolve to better interface with Artificial Intelligence systems, as the benefits of automated scientific research become more apparent. This transition could enable faster and more consistent knowledge production across fields.

Although this future scenario on Artificial Intelligence arrives, at the beginning, the first databases to be shared for Artificial Intelligence are likely to be a mix of different databases with different shapes.

The standardization process of databases in the very first model of Global Artificial Intelligence, is going to be that process in which, every single database is going to be analysed, identifying every single factor able to provide a flow of data in every database, defining every factor in quantitative terms, merging at the end all factors in the same matrix, the global matrix.

As long as the very first [experiments](#) in Specific Artificial Intelligence for Artificial Research by Deduction start working, not only [the knowledge](#) and experience acquired in these first experiments are going to play a key role in the design of a system of Artificial Research by Deduction in the Global Artificial Intelligence. Much more than this, those specific matrices as databases in the first stage of application in these first experiments in Specific Artificial Intelligence for Artificial Research by Deduction, are going to be specific matrices, that, defining their factors in quantitative terms, factors able to supply a permanent flow of data, all these specific matrices from Specific Artificial Intelligence for Artificial Research by Deduction are going to be specific matrices able to be included directly in the global matrix.

In the first phase for the creation of the first global matrix, the shape that the global database is going to have is the shape of a gigantic database, including bare databases not having yet the shape of a true matrix, and those specific matrices from the first experiments in Specific Artificial Intelligence for Artificial Research by Deduction.

In order to standardize all databases: the bare databases (without sorting out their factors) and those specific matrices (from the first experiments);



the standardization must have clear definitions about what a factor is, how every factor must be defined in quantitative terms, what is a measurement (in [direct punctuations or frequencies](#)), and how every factor is going to have permanent measurements. This does not mean that in this first stage of application, the robotic devices are going to get measurements. Any measurement process belongs to the second stage of replication. Any robotic device is, in fact, a replicant itself.

This means that, previously to any measurement, it is advisable to have a clear idea about how, in the second stage of replication, the robotic devices are going to fill the measurements in the corresponding file of every factor included in the matrix, matrix constructed in this first stage. Having a clear idea about how this is going to work this mechanism, the design of every factor, during the construction of this global matrix as a first stage of application, is easier.

In this first stage of application, the only thing to do is to have strong definitions of every factor in quantitative terms, defining how each file from each factor in the matrix is going to be filled later, in the second stage, by replicants (robotic devices), giving the replicants a permanent flow of data in every file from every factor, and later on by rational replications the analysis of the flow of data in order to make empirical hypothesis as mathematical relations found among the data.

But in all this long process, the only thing to do in this first stage of application, and not for that reason less challenging, is to define every factor, able to have a permanent flow of data, in quantitative terms.

The only difference between the first stage of application in the creation of a database as a specific matrix in any Specific Artificial Intelligence for Artificial Research by Deduction, and the database as a global matrix in this first phase (previous the integration process) in Artificial Research by Deduction in the Global Artificial Intelligence, is the fact that in Specific Artificial Intelligence for Artificial Research by Deduction the application consists of a specific matrix, while in Artificial Research by Deduction in the Global Artificial Intelligence, the application consists of a global matrix.

But, in any specific matrix as well as the global matrix, the definition of the matrix as a database in Artificial Research by Deduction (Specific or Global), is exactly the same. Nothing changes except the number of factors, therefore, the amount of information, to include in the matrix.

In one case, the specific matrix, includes only those factors related to a [synthetic science](#) or synthetic academic field or activity, while the global matrix includes absolutely all factors working at the national, international, planetary level, or beyond, the entire universe.

In the consideration about what is a flow of data, something that could be really important, in order to simplify the number of factors, otherwise, the number of factors will be huge, is the consideration, as a flow of data, the flow of complete packages of information.

For instance, in Global Artificial Intelligence, the possibility to use as a permanent flow of data that information regarding to the population of every country. In that case, under the definition of the population of a country, this definition itself works as a single factor, so the population of the United States would be a single factor itself, the population of Canada would be a single factor itself, or the population of Mexico would be a single factor itself.

The population of any country is something that changes permanently. In order to show only a very short brainstorming of possible sub-factors within the population factor: at every single minute, many people die at the same time that many children are born, at every single minute, many people migrate from one country to another, statistically every single minute is different the population of every country, province, city, town, village, the number of boys or girls, number of students registered in schools and universities, number of men and women, number of families, average number of sons and daughters, people in each age cohort, active population, rate of employment and unemployment, people depending on social benefits, rent per capita, average salary, and so on.

And all this information could be included in packages of information related to the population of every country, and the permanent flow of packages of information is treated as a permanent flow of data.

Information that instead of treating each individual sub-factor individually as an individual factor itself in the global matrix, all these sub-factors related to the population factor of any country could be treated as only one factor: population of one country, and the flow of data of this factor, population, is a flow of packages of information about how every sub-factor changes permanently in this country.

Permanently someone dies or is born, migrates or obtains the nationality, is hired or fired, asks for social benefits or gets married or divorced.

In that case, the consideration of population as a factor itself implies the consideration of the flow of packages of information as a flow of data.

Packages of information from this factor, population, that must include the flow of data from every sub-factor related to the population factor.

Where all possible sub-factor must be defined in quantitative terms being able to supply a permanent flow of data to include in the flow of package of information related to its factor, in this example the population factor.

The way in which this flow of packages of information (including in every package the flow of data of every sub-factor) is treated in the second stage of replication, is the following: looking for any possible mathematical relation in any possible combination of sub-factors in the package itself, and any possible relation from any sub-factor or combination of sub-factors of this package and other sub-factors and other combination of sub-factors in any other package of information of the population of any other country, or any possible relation between these sub-factors or combination of sub-factors and any other factor or combination of factors including in the global matrix.

For instance, any possible relation between changes in the population of the United States of America, Canada, or Mexico, and possible global changes such as global economic changes, global climate changes, wars and global threats around the world (for instance, the Syrian war, or the nuclear program of North Korea), global tectonic changes, astronomic



changes (for instance, is there any relation between solar storms, closer supernovas, the behaviour in black holes, possible gravitational anomalies around the universe, and the behaviour of the population of any country, or the global population itself?)

Looking for relations between population and astronomical facts could look very unlikely, but being aware that the last massive extinction was caused by a massive meteorite, and there is geological evidence that the Earth has suffered radiations from supernovas, the survival of humanity has a strong relation with astronomical facts, and it is quite possible that some trends in the global population behaviour could have astronomical causes.

Along with the possible treatment of the population of every single country, or the global population, as possible factors themselves able to supply a permanent flow of information packages (including the flow of data from every single sub-factor), the possibility to include in the global matrix as single factors some astronomical phenomena, like the possible treatment of all the information (including all possible sub-factor) from any planet as a single factor itself, any star as a single factor itself, any galaxy as a single factor itself, or any celestial body as a single factor itself, and all and each of them treated as single factors, including in every factor its corresponding sub-factors, meeting all possible information from every sub-factor in the package of information within its corresponding factor, information package updated permanently, having for every single factor a permanent flow of packages of information coming up from every sub-factor within this single factor.

A single factor does not mean that it has not got sub-factors, but the opposite, a single factor in the European Unión could be every country involved in the union, a single factor in the United States could be every single state involved in the union, and every single factor should have a collection of sub-factors related to: population, economy, industry, security, transport, surveillance, banking sector, health system, educational system, justice, equity, etc.

The way in which the matrix, as a database in the first stage of application, must be defined in any Specific Artificial Intelligence for Artificial Research by Deduction and the Artificial Research by Deduction in the Global Artificial Intelligence, is going to be the same, defining in

quantitative terms the factors to include in the matrix, being factors able to supply a permanent flow of data from itself or from sub-factors included within.

The only difference is the fact that in one case, the specific matrix is going to include the factors from a specific synthetic science, specific synthetic academic field, or specific activity, while the global matrix must include absolutely all factors, from all sciences, academic fields, activities, working in its territory: national, continental, planetary, or beyond, the entire universe.

In order to simplify the number of factors in the global matrix, one solution is the treatment, as a flow of data, the flow of packages of information from that group of sub-factors working in the same factor, treating this factor as a factor able to supply a flow of information packages, which includes all the flow of data from all the sub-factors related to this factor.

Once I have explained how works the flow of packages of information as a flow of data, if I had to integrate in the global matrix those specific matrix designed in "[\*The database in the Specific Artificial Intelligence for Artificial Research by Deduction\*](#)", where I developed some examples of specific matrices in tectonics, climatology, transport, and gravity, I would have two options: 1) the direct integration of all the factors of these specific matrices into the global matrix, or 2) the consideration of every specific matrix as a factor itself whose sub-factors are all the factors included in every specific matrix.

Both of them are equally valid, but in order to simplify the number of factors working in the global database, perhaps it is much more convenient to choose the second one: the consideration of every specific matrix as a factor itself, giving a flow of information packages to the global matrix permanently, including in every package the flow of data from every sub-factor related to this factor.

Under this second option then, the Global Artificial Intelligence could track any possible mathematical relation in any possible combination of sub-factors in any information package, at the same time, that could track any possible mathematical relation between any possible combination of

factors from any information package and any other factor or combination of factors included in the global matrix, or any other sub-factor or combination or sub-factors in any other package of factors.

Using the examples given in my post "*The database in the Specific Artificial Intelligence for Artificial Research by Deduction*", but now at the global level:

The Global Artificial Intelligence using Artificial Research by Deduction, could track the global matrix looking for 1) any possible mathematical relation between any possible combination of tectonic sub-factors, 2) any possible mathematical relation between any tectonic sub-factor or any possible combination of tectonic sub-factors, and any, climatic, transport, gravitational, factor or sub-factor, or combination of any climatic sub-factors, or combination of any transport sub-factors, or combination of any gravitational sub-factors, 3) or even the possibility to make combinations integrating in each set sub-factors from different factors, for instance a set of tectonic and/or climate and/or transport and/or gravitational sub-factors in order to study any possible mathematical relation with another different set of tectonic and/or climate and/or transport and/or gravitational sub-factors, 4) finally the possibility to track possible mathematical relations between different mathematical relations, among factors and sub-factors, or even the possibility to make combinations of different relations at any level studying possible mathematical relations in every possible combination of relations.

In a machine like this one, the contribution of Alan Turing is something important to study carefully, the Global Artificial Intelligence is going to be a gigantic Turing's machine.

As long as the creation of a global matrix progresses, the consideration of what is a factor or sub-factor is going to change very rapidly.

Most of the specific matrices that are going to be created, such as a specific matrix of tectonics, climatology, transport, or gravity, could be considered at the beginning as factors themselves to integrate into the global matrix: integrating, in the global matrix, each specific matrix as a single factor itself formed by its corresponding sub-factors.

But, as long as the development of the Global Artificial Intelligence will reach the level to research relations including information coming up from the entire universe, there is a moment when, what at the beginning was considered single factors integrating sub-factors, even this single factors (integrating their own sub-factors) are going to become sub-factors belonging to other factors much bigger, for instance, if at the beginning every country in a european matrix is considered as a single factor (formed by its own sub-factors) alike every state in United States could be considered as a single factor, in the construction process of a global matrix, when the matrices coming up from the European Unión and United States should be integrated in the same matrix, it is much easier to consider the European Unión itself as a single factor (so now every european country becomes a sub-factor related to the factor Europe) alike United States itself becomes a single factor (so every state is transformed to a sub-factor belonging to United States), and every european country or american state now as a sub-factor, is formed by its respective original sub-factors related to: population, economy, industry, security, transport, surveillance, banking sector, health system, educational system, justice, equity, etc.

Therefore, we can consider tectonics, climatology, transport, and the Earth's gravity, as factors themselves, including every one of them their own sub-factors, but by the time the Global Artificial Intelligence can track the entire universe, the Earth is going to be no more than only one planet more, treated now as a factor (formed by all its own sub-factors) among the huge amount of planets in the universe.

In this broader context, the Earth may eventually be treated as one of many planetary data sources. Each celestial body, including Earth, would be represented as a single factor, composed of various sub-factors like tectonics or climatology, contributing to a larger universal matrix.

And every single planet (as every single celestial body or astronomical phenomenon) should be considered as a single factor itself, and all the information coming up from every planet should be integrated by a flow of packages of information, containing every package of information the flow of data from every single aspect to study: from tectonics and climatology to the ionosphere, and in case that the planet could have life, the biosphere.

Every single aspect of studying is a sub-factor within the planet as a factor itself, so the tectonics is one sub-factor itself, the biosphere another sub-factor itself, the climatology another sub-factor itself, the ionosphere another sub-factor itself, and every sub-factor: tectonics, biosphere, climatology, ionosphere; is composed by its own respective sub-factors.

Despite the fact that the organization of a global matrix can become much more structured than a simpler specific matrix, in the end, the only difference between a specific matrix and the global matrix is the amount of data.

The only reason for the organization of the global matrix in factors composed of sub-factors, which in turn every sub-factor could be composed by other sub-factors as long as the global matrix is able to track the whole universe, is to simplify the number of factors in the global matrix, so the information in the global matrix could be summed up using, as a flow of data, the flow of packages of information for every factor, packages of information which are going to contain information from every sub-factor.

If one factor is the Earth, the flow of packages of information corresponding to the Earth, is going to be composed for the packages of information for every single sub-factor, such as tectonics, climatology, transport, or Earth gravity.

And every package of information of every sub-factor is going to provide the flow of data of every sub-factor included in the first sub-factor mentioned, what it would be as if this sub-factor mentioned would be composed by sub-sub-factors.

For instance, the package of information from tectonics as a sub-factor (included in the flow of the information package coming from the Earth as the main factor) is going to provide the flow of information from every temperature in every location as a sub-sub-factor, information from every tectonic episode as sub-sub-factor, information from every tectonic phenomenon such as earthquakes, tsunamis, volcanoes, etc. as sub-sub-factors

In the design of a system of Artificial Research by Deduction in the Global Artificial Intelligence, the first stage is the design of the database, that matrix, at the beginning only a gigantic matrix mixing databases without sorting out in factors and specific matrix coming up from the first experiments in Specific Artificial Intelligence for Artificial Research by Deduction, but first model of global database that after the standardization process (that will end up with a very structured matrix organized in: factors, sub-factors, or even sub-sub-factors), defining every factor, sub-factor, or even sub-sub-factor, in quantitative terms able to provide a permanent flow of data, this first model of global matrix, is a first stage where later on the second stage, by replication, to apply the first models of artificial deduction replicating rational processes: filling every file from every factor in the global matrix with information packages given by robotic devices, and by the time the flow of packages of information starts running, tracking the global database looking for any possible mathematical relation in any possible combination of factors, sub-factors, sub-sub-factors, that considered as empirical hypothesis, if rational, are going to be object of single and comprehensive models, this last one, a true global model, being only the beginning for a full modelling process through the Modelling system.

Rubén García Pedraza, London 4th of March of 2018  
Reviewed 9 August 2019.

Reviewed 9 August 2023

Reviewed 4 May 2025, London, Leytostone

[Probabilidad Imposible: The database in Artificial Research by Deduction in the Global Artificial Intelligence](#)

imposiblenever@gmail.com